

REMARKS

The April 26, 2006 Office Action and references cited therein have been carefully considered together with the present application. In response, Applicant has amended claim 1, and submits the following remarks.

As a preliminary matter, Applicant appreciates allowance of claims 14, 15 and 17-26.

Applicant acknowledges the withdrawal of claims 4-7, 10, 12, 27 and 28 from prosecution, and reserves the right to file one or more divisional applications based on the subject matter of the withdrawn claims at or prior to issuance of the instant application.

Applicant further acknowledges and traverses the Examiner's refusal to extend priority to solid state nitrate oxidants other than gadolinium nitrate. Applicant submits that gadolinium nitrate is merely representative of a single species of the broader genus include a multitude of solid state nitrate oxidants. While for exemplary purposes, gadolinium nitrate was specifically discussed in the provisional application from which the instant application claims the benefit (Provisional Application Serial Number 60/432,112), that genus also inherently includes those solid state nitrate oxidants recited in the instant utility application. To wit, the genus of solid state nitrate oxidants inherently encompassed includes nitrate salts, perchlorate salts, fluoride salts, PETN, metal azides and TNT. See page 4, line 28-33. Accordingly, Applicant traverses the Examiner's refusal to extend priority to each and every

solid state oxidant explicitly listed in the instant utility application insofar as those solid state oxidants were implicit as part of the genus that included the exemplary gadolinium nitrate.

The Examiner objected to claim 3 based on improper dependency. In response, Applicant herein amends claim 3 to recite dependency from claim 2.

Claims 1, 2, 8 and 9 stand rejected under 35 U.S.C. § 102(e) as being anticipated by Simpson et al. (U.S. 6,666,935). Applicant traverses the rejection because Simpson et al. do not disclose or suggest an initiator explosive device that includes nanocrystalline silicon having a plurality of pores disposed therein, as recited in amended claim 1.

By the instant amendment, claim 1 is amended for the purposes of expediting prosecution by addressing an apparent misinterpretation of the original claim. The scope of claim 1 remains unchanged, and merely reflects a recitation that addresses a previous interpretation of claim by the Examiner that is both incorrect and unintended.

The invention, as recited in both original claim 1 as well as amended claim 1, includes nanocrystalline silicon containing pores, or as amended claim 1 now more specifically recites, “having a plurality of pores disposed therein.” As described at page 3, line 3 through page 4, lines 7, one preferred form of nanocrystalline silicon is “a thin film electrochemically etched into a single crystal or polycrystalline silicon substrate. Other forms include porous silicon chemically etched into a single crystal or polycrystalline silicon substrate or into a powder of crystalline silicon particles.” Thus, rather than having pores or

gaps created in spaces between cross-linked particles, the pores are clearly recited as being disposed in the nanocrystalline silicon itself.

The recitation of claim 1, therefore, stands in contradistinction to Simpson et al. The Examiner has apparently adopted an erroneous interpretation of Simpson et al., wherein the Examiner equates the open “gel” portion of the sol-gel disclosed in Simpson et al. with the pores disposed in the nanocrystalline silicon of claim 1. Applicant respectfully submits that artisans would not interpret the openings between cross-links with the pores recited in claim 1 .

More particularly, Simpson et al. disclose sol-gel manufactured energetic materials wherein “monomers are reacted in solution to produce small nanometer sized particles, a ‘sol’, which cross-link to form a three-dimensional solid network with the remaining solution residing within open pores, a ‘gel.’” See column 5, lines 7-11. The gel is apparently then dried to create a highly porous “aerogel.” See Abstract. Thus, for example, as illustrated in FIGs. 3B-3D, and described at column 6, lines 11-16, the “pores” are disposed *between* the cross-linked nanometer sized particles, rather than on the particles themselves.

In the instant invention, the nanocrystalline silicon was originally recited as “containing” a plurality of pores, and Applicant maintains that one skilled in the art would have understood that recitation to inherently describe pores as being disposed “in” the nanocrystalline silicon, as opposed to “between” nanoparticles of same. Nonetheless, in an

effort to expedite prosecution, Applicant amended claim 1 to emphasize that the relationship between the nanocrystalline silicon and the pores is such that the nanocrystalline silicon has a plurality of pores disposed “thereon,” which stands in clear contrast to the “pores” as illustrated and described in Simpson et al.

Accordingly, Applicant submits that the §102(e) rejection based on Simpson et al. is traversed.

Claims 3 and 11 stand rejected under §103(a) as being obvious over Simpson et al. in view of Aubert (U.S. Patent No. 4,705,582) and over Simpson et al., respectively. For the reasons asserted above in traversing the §102(e) rejection of claim 1, Applicant traverses. Neither Simpson et al. nor Aubert disclose or suggest, either alone or in combination, nanocrystalline silicon having a plurality of pores disposed thereon, as recited in amended claim 1, from which both claims 3 and 11 ultimately depend.

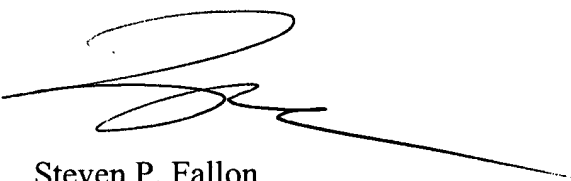
Instead, Simpson et al. discloses “pores” being disposed between cross-linked nanoparticles. Aubert does not even address nanocrystalline silicon or pores, but instead discloses an explosive composition that includes TNT and a wax desensitizer. Accordingly, the combination does not disclose or suggest the invention as presently recited in claim 1.

For the foregoing reasons, Applicant submits that this Application is in condition for allowance, which is respectfully requested. The Examiner is invited to contact the undersigned attorney if an interview would expedite the prosecution.

Respectfully submitted,

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